



## Disclosure END8-1999-0230

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Required fields are marked with the asterisk (\*) and must be filled in to complete the form .

### Summary

Status	Under Evaluation
Processing Location	END
Functional Area	CRED-(NOBS) ARC Demanufacturing
Attorney/Patent Professional	John Slack/Endicott/IBM
IDT Team	John Slack
Submitted Date	
Owning Division	CRED Add/Change
PVT Score	11
Incentive Program	
Lab	
Technology Code	

### Inventors with Lotus Notes IDs

Inventors: Edward Grenchus Jr/Endicott/IBM, Charlie Nobs/Endicott/IBM, Robert Keene/Endicott/IBM

Inventor Name > denotes primary contact	Inventor Serial	Div/Dept	Manager Serial	Manager Name
Grenchus Jr, E.J. (Edward)	033033	88/Y2IA	069702	Nobs, C.R. (Charles)
Nobs, C.R. (Charles)	069702	88/X2SA	162491	McDonnell, D.W. (Daniel)
Keene, R.A. (Robert)	941601	88/GYRE	053674	Luce, R.H. (Bob)

### Inventors without Lotus Notes IDs

#### IDT Selection

IDT Team: John Slack	Attorney/Patent Professional: John Slack/Endicott/IBM
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#### Response Due to IP&L:

#### Main Idea

##### \*Title of disclosure (in English)

Optimal demanufacturing process determination

##### \*Idea of disclosure

1. Describe your invention, stating the problem solved (if appropriate), and indicating the advantages of using the invention.

Recycling activities are growing significantly each year. With thousands of businesses world wide, performing reutilization activities (dismantle, parts harvesting and, teardown for commodity recovery), this emerging business presents a significant market opportunity for this process. Solving the difficult task of

determining optimal recovery / expense tradeoffs in the Reutilization business is essential to a business's competitiveness. This process and it's associated tools offers an approach which addresses this problem and provides the user a significant advantage in making process optimization determinations.

The process consists of the following steps:

- 1) Collection and input to a database financial information about each part's resale value
- 2) Collection and input to a database financial information about each commodity (plastic, steel, etc.)
- 3) Input above data into Model
- 4) Input labor rates
- 5) Collect Teardown time / staffing for each item including:
  - a) Amount of time / people for operation one (repeat for all operations)
  - b) Save parts & values for operation one (repeat for all operations)
  - c) Commodities and associated pounds for each commodity recovered in operation one (repeat for all operations)

Example of Input Sheet:

- Inputs are for each operation, up to 10, and include (inputs are in blue):
  - \* Time to complete operation (Labor) in minutes
  - \* Number of people to complete an operation
  - \* Number of pounds for each operation
- Input any special requirements which require Demanufacturing to be completed through a particular operation.
- User defines commodities and associated recovery values.

Press "Ctrl" and "C" to Clear Titles & Return Home (a1)		OPER 1	OPER 2	OPER 3	OPER 4
		"X" = required	"X" = required	"X" = required	"X" = required
<b>TEARDOWN REQUIREMENTS</b>					
SENS Parts					
SAVE Parts required					
IMPAIRMENT required					
Other required (Specify)					
Other required (Specify)					
Vendor required teardown					
<b>LABOR REQUIREMENTS</b>					
LABOR (TIME in MIN.)		1.0	2.0	2.0	
PEOPLE INVOLVED:		1	1	1	
<b>SAVE PARTS INPUT</b>					
		OPER 1	OPER 2	OPER 3	OPER 4
		Value \$	Value \$	Value \$	Value \$
Save parts value (\$)					
MODSALE					
HARDDRIVE			\$5.00		
<b>COMMODITY INPUT</b>					
TOTAL LBS		OPER 1	OPER 2	OPER 3	OPER 4
8.0		pounds	pounds	pounds	pounds
		3.5	3.5	1.0	0.0
<b>FERROUS</b>					
Steel					
ups					
<b>NON-FERROUS</b>					
ALUM HIGH		OPER 1	OPER 2	OPER 3	OPER 4
ALUM TURN					
ALUM MIX					
ALUM NOVAL					
CABLES					
COAX					
CU FOIL					
CU HIGH					
CU TRIM					
0.5 CU MIX			0.5		
CU NVCARDS					
CU LVCARDS					
CU MUDFLTR					
POWER SUPPLIES					
HDA					
Page 3 HARDRIVES					
SAVEDRIVES					
GND STRAPS					

2. How does the invention solve the problem or achieve an advantage,(a description of "the invention", including figures inline as appropriate)?

- 1)The user first characterizes equipment typical to his business. This data relates to resale value, expected parts recovery value, material recovery value, and associated expenses for each item being considered for processing.
- 2) This data is input to a Lotus 123 based model which provides the user with a recommendation for the optimal tradeoff of expense verses recovery for each item.

Example of Results:

Controllable Variables:

- Labor Rate:
  - \* Fully burdened
  - \* Incremental
- Commodity Values
- Save Part Values

Results for each operation is noted

- Recoveries (from saved parts and commodities) for an operation
- Cumulative recoveries to that point of Demanufacturing
- Expense for an operation
- Cumulative Labor expense to that point of Demanufacturing
- Net Expense (Recovery) for an operation or cumulatively to that operation

Financial Summary:

- Net Recovery if all operations are completed
- Recommended operation to stop at for optimal recovery
- Total weight
- Labor Profile

Summary "results" sheet for one item:

		Operation	Net Recoveries	Labor Min.	
3092	<u>Revised</u>				
	<b>Required teardown steps:</b>	0	N/A	N/A	
	<i>Optimal return - Impair only:</i>	0	\$31.03	0.0	TEARDOWN RC
	<u>Original</u>				
	<b>Required teardown steps:</b>	2	\$102.42	70.0	SENS Parts
	<i>Optimal return:</i>	1	\$147.07	10.0	SAVE Parts required
	<b>Net Savings Original to Revised (Required)</b>		N/A	N/A	IMPAIRMENT require
	<i>Net Savings Orig. to Revised (Optimal):</i>		(\$116.04)	N/A	Other required (Spec)
	<b>Total Weight:</b>	1,645 lbs.			Other required (Spec)
	<b>Labor Rate:</b>	\$0.96 per min.			Vendor required tear

Detail "results" sheet for one item:

Press "Ctrl" and "S" simultaneously to print this sheet		Press "Ctrl" and "I" to INPUT		INPUT REV
2618 2625		2618 2625 - LABOR D&S ANALYSIS		
<i>LABOR RATE: \$0.96 (full) / \$0.21 (incremental) Per Min.</i>				
ORIGINAL PROCESS		OPER 1	OPER 2	OPER 3
				OPER 4
	RECOVERIES (Per Oper):	(\$0.34)	\$8.66	\$4.18
	RECOVERIES (Cumm.):	(\$0.34)	\$8.32	\$12.50
	LABOR (Per Oper):	\$0.96	\$1.92	\$1.92
	LABOR (Cumm.):	\$0.96	\$2.88	\$4.80
<i>Recovery vs. Labor Analysis</i>				
	NET Recovery:	(\$1.30)	\$6.74	\$2.26
	NET Recovery (Cumm.):	(\$1.21)	\$5.46	\$7.70
	% Recovery:	-187%	451%	218%
	% Recovery (Cumm.):	-187%	289%	261%
	NET Recovery (operation to end):	\$7.70	\$9.00	\$2.26
	Carcus Value (Rate \$/lb):	\$0.0189	\$0.08	\$0.02
	Carcus Disabling Cost (\$):			\$0.00
		NET \$		
	Required D&S:	3	\$7.70	
	Optimal D&S recovery:	3	\$7.70	
	SENS Parts:	0		
	SAVE Parts required	0		
	IMPAIRMENT required	0		
	Other required (Specify)	0		
	Other required (Specify)	0		
	Vendor required teardown	0		
	TOTAL WEIGHT:	8 LBS		
	LABOR (person-min. for operation):		1.0	2.0
	LABOR (person-min. Cumm.):		1.0	3.0
	labor thru oper 3	5.0 person-min.		2.0
	labor thru oper 3	5.0 person-min.		5.0

3. If the same advantage or problem has been identified by others (inside/outside IBM), how have those others solved it and does your solution differ and why is it better?

The method and simplicity of this operation sets it aside from other approaches

4. If the invention is implemented in a product or prototype, include technical details, purpose, disclosure

details to others and the date of that implementation.

N/A

**\*Critical Questions ( Questions 1 - 7 must be answered)**

**\*Question 1**

On what date was the invention workable? **Please format the date as MM/DD/YYYY**  
 (Workable means i.e. when you know that your design will solve the problem)

**\*Question 2**

Is there any planned or actual publication or disclosure of your invention to anyone outside IBM?

Yes  
 No

If yes, Enter the name of each publication or patent and the date published below.

Publication/Patent: Planned submittal:

Date Published or Issued: N/A

Are you aware of any publications, products or patents that relate to this invention?

Yes  
 No

If yes, Enter the name of each publication or patent and the date published below.

Publication/Patent:

Date Published or Issued:

**\*Question 3**

Has the subject matter of the invention or a product incorporating the invention been sold, used internally in manufacturing, announced for sale, or included in a proposal?

Yes  
 No

Is a sale, use in manufacturing, product announcement, or proposal planned?

Yes  
 No

If Yes, identify the product if known and indicate the date or planned date of sale, announcements, or proposal and to whom the sale, announcement or proposal has been or will be made.

Product:

Version/Release:

Code Name:

Date:

To Whom:

If more than one, use cut and paste and append as necessary in the field provided.

**\*Question 4**

Was the subject matter of your invention or a product incorporating your invention used in public, e.g., outside IBM or in the presence of non-IBMer?

Yes  
 No

If yes, give a date. **Please format the date as MM/DD/YYYY**

**\*Question 5**

Have you ever discussed your invention with others not employed at IBM?

Yes  
 No

If yes, identify individuals and date discussed. Fill in the text area with the following information, the names of the individuals, the employer, date discussed, under CDA, and CDA #.

**\*Question 6**

Was the invention, in any way, started or developed under a government contract or project?

Yes  
 No  
 Not sure

If Yes, enter the contract number

**\*Question 7**

Was the invention made in the course of any alliance, joint development or other contract activities?

- |                                     |
|-------------------------------------|
| <input type="radio"/> Yes           |
| <input checked="" type="radio"/> No |
| <input type="radio"/> Not Sure      |

If Yes, enter the following :Name of Alliance, Contractor or Joint Developer

Contract ID number

Relationship contact name

Relationship contact E-mail

Relationship contact phone

**Question 8**

Have you submitted, or are you aware of, any related disclosure submission?

- |                                     |
|-------------------------------------|
| <input type="radio"/> Yes           |
| <input checked="" type="radio"/> No |

If Yes, please provide the title and docket or disclosure number below:

**Question 9**

What type of companies do you expect to compete with inventions of this type? Check all that apply.

- Manufacturers of enterprise servers
- Manufacturers of entry servers
- Manufacturers of workstations
- Manufacturers of PC's
- Non-computer manufacturers
- Developers of operating systems
- Developers of networking software
- Developers of application software
- Integrated solution providers
- Service providers
- Other (Please specify below)

Recycling Enterprises, Consulting firms

**Patent Value Tool (Optional - this may be used by the inventor and attorney to assist with the evaluation of your invention.)**

(The Patent Value tool can be used by you or the evaluation team to determine the potential licensing value of your invention.)

These are the answers which were entered into the **Patent Value Tool**.

**Market**

What is the anticipated annual market size (in dollars) that will be captured by your invention?

\$1M to \$10M

Reason(s) for above Answer Recycling activities are growing significantly each year. With thousands of businesses world wide, performing reutilization activities (dismantle, parts harvesting and, teardown for commodity recovery), there is a significant market opportunity for this process. Solving the difficult task of determining optimal recovery / expense tradeoffs in the Reutilization business is essential to a businesses competitiveness. This process and it's associated tools offers an approach to addressing this problem

which significantly aids the user in making this determination.

### **CLAIMS**

**Question 1 - How new is the technical field?**

Emerging

Reason(s) for above Answer Although the recycling business has been around for many years, the field is immature. Needs for additional recycling efforts are driven by increasing concerns about space necessary for current and future Landfill, regional initiatives to solve this problem, and in some cases, legislative initiatives requiring recycling of certain items.

**Question 2 - How central is the invention to the product(s) which might be expected to contain the invention?**

Entire Product

Reason(s) for above Answer This process deals with the Reutilization aspects of Recycling.

**Question 3 - What is the scope of the claim?**

Broad

Reason(s) for above Answer Deals with process financial decisions to determine the optimal level of teardown

### **PORTFOLIO NEED** View PPM Needs List

What are the portfolio needs in the area of your invention?

Unlisted

### **EXPLOITATION & ENFORCEMENT**

**Question 1 - How easily can the use of the invention by a competitor be detected?**

With work

**Question 2 - How easily can the use of the invention be avoided by a competitor?**

With much work

### **BUSINESS VALUE**

**Question 1 - What percentage of the companies producing products in the field of this invention might use this invention?**

By 10% to 30%

**Question 2 - What is the value of this patent to current or anticipated Alliance Activity between IBM and other companies?**

High value

**Question 3 - What is the value of this patent to current or anticipated Technology Transfer Activity between IBM and other companies?**

High value

**Question 4 - Does it result in prestige to IBM?**

Industry wide

### **Post Disclosure Text & Drawings**

Enter any additional information relating to this disclosure below:

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